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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBBERT C. VAN DER LINDEN and BRIAN S. VICKERY

Appeal 2009-005196
Application 10/648,760
Technology Center 2100

Before LANCE LEONARD BARRY, HOWARD B. BLANKENSHIP, and JAY P. LUCAS, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL[1]

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[1] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the "MAIL DATE" (paper delivery mode) or the "NOTIFICATION DATE" (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

STATEMENT OF THE CASE

The Patent Examiner rejected claims 1, 2, 4-15, and 17-38. The Appellants appeal therefrom under 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6(b).

INVENTION

The Appellants describe the invention at issue on appeal as follows.

> The present invention is directed to an improved method and system for storing structured documents in their native format in a database system. The method comprises receiving the structured document, generating a hierarchical node tree comprising a plurality of nodes, wherein the node tree represents the structured document, and storing the plurality of nodes in at least one record in the database.

(Spec. 2.)

REPRESENTATIVE CLAIM

> 1. A method for storing a structured document in its native format in a database, the method comprising:
>
> receiving a structured document;
>
> generating a hierarchical node tree comprising a plurality of nodes, wherein the node tree represents the structured document; and
>
> storing the plurality of nodes in at least one record in the database,
>
> wherein each record comprises a node slot array, the node slot array including a plurality of node slots, each node

slot including a pointer pointing to one of the plurality of nodes in the hierarchical node tree.

REJECTIONS

Claims 1, 2, 4-7, 10-15, 17-20, 23-32, and 34-37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Efficient storage of XML* [i.e., eXtensible Markup Language] *data* ("Kanne") and U.S. Patent No. 5,758,361 ("van Hoff").

Claims 8, 9, 21, 22, 33, and 38 stand rejected under § 103(a) as being unpatentable over Kanne; van Hoff; and U.S. Patent No. 5,673,334 ("Nichani").

CLAIM GROUPINGS

Based on the Appellants' arguments, we will decide the appeal of claims 1, 2, 4, 13-15, 17, 26-29, 32, and 34-37 on the basis of claim 1 alone; claims 5-12, 18-25, 30, and 31 on the basis of claims 5, 18, and 30; and claims 33 and 38 on the basis of claim 33 alone. *See* 37 C.F.R. § 41.37(c)(1)(vii).

CLAIMS 1, 2, 4, 13-15, 17, 26-29, 32, AND 34-37

The *issues* before us are whether the Examiner erred (1) in relying on Kanne and (2) in finding that van Hoff teaches a node slot array of pointers as required by representative claim 1.

FINDINGS OF FACT

Kanne describes its invention as "NATIX, an efficient, native repository for storing, retrieving and managing tree-structured large objects,

preferably XML documents. In contrast to traditional large object (LOB) managers, we do not split at arbitrary byte positions but take the semantics of the underlying tree structure of XML documents into account." (Abstract, ll. 1-4.)

Van Hoff describes its invention as "a computer system and method for representing and editing hierarchical documents." (Col. 1, ll. 38-40.)

ANALYSIS

We address the aforementioned issues *seriatim.*

Reliance on Kanne

"Whether a reference in the prior art is 'analogous' is a fact question." *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992) (citing *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568 n.9 (Fed. Cir. 1987)). Two criteria have evolved for answering the question: "(1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *Id.* at 658-59 (citing *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986); *In re Wood*, 599 F.2d 1032, 1036 (CCPA 1979)).

Here, the Examiner makes the following "specific and detailed findings," *Ex parte Belinne*, 2009 WL 2477843, at *4 (BPAI Aug. 10, 2009) (informative), about van Hoff and Kanne.

> Van Hoff is discouraging the use of HTML [i.e., hypertext markup language] document editors which require the traversal of the entire tree (all leaf items). Kanne (in section 1) states that the system introduced is a "hybrid system" i.e. that has both

> "flat" areas as well as node-tree structures for storing XML records. Therefore, a person of ordinary skill would not be discouraged from combining Kanne and van Hoff.

(Ans. 8.)

For their part, the Appellants do not address these findings. Instead, they merely argue that two passages of van Hoff "teach against representing a document in a hierarchical tree format, which is contradistinctive from the teachings of Kanne towards hierarchical node trees . . . ." (Reply Br. 4.)

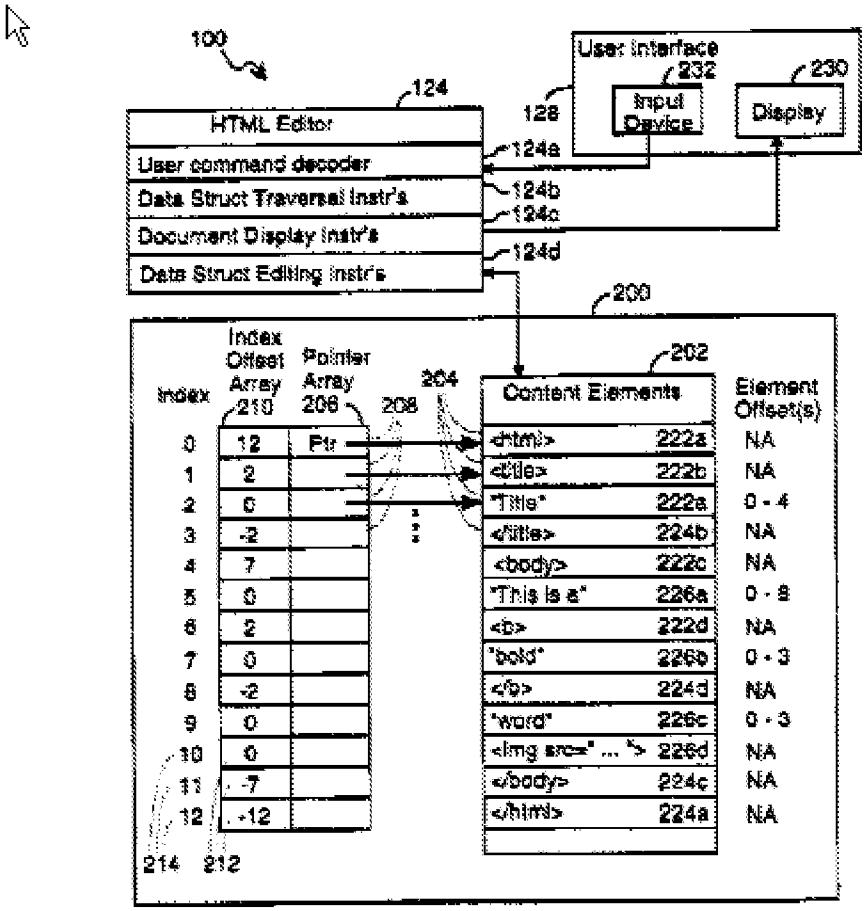
This argument "do[es] not . . . explain why the Examiner's explicit fact finding is in error." *Belinne*, 2009 WL 2477843, at *4. Therefore, we *conclude* that the Examiner did not err in relying on Kanne.

Node slot array of Pointers

The question of obviousness is "based on underlying factual determinations including . . . what th[e] prior art teaches explicitly and inherently . . . ." *In re Zurko*, 258 F.3d 1379, 1383 (Fed. Cir. 2001) (citations omitted).

Here, the Examiner finds that van Hoff "teaches that an array of 'nodes slots' (e.g. the index/pointer list) can point to another array of 'nodes' (#202) of the structured document." (Ans. 8.)

Figure 2 of van Hoff, which supports the Examiner's finding, follows.



More specifically, the Figure shows that a "hierarchical document data structure 200 includes: a first 'document content' array 202 of variable length content elements 204, an array 206 of pointers 208 to the variable length content elements 204 . . . ." (Col. 3, ll. 44-46.) Based on Figure 2, we agree with the Examiner's finding that array 206 comprises pointers.

For his part, the Appellant does not address this finding about pointer array 206. Instead, he merely argues that "the 'document content array 202' in Hoff does NOT include any pointers." (Reply Br. 3.)

This argument about a different array than the one relied on by the Examiner "do[es] not . . . explain why the Examiner's explicit fact finding is in error." *Belinne*, 2009 WL 2477843, at *4. Therefore, we *conclude* that the Examiner did not err in finding that van Hoff teaches a node slot array of pointers as required by representative claim 1.

CLAIMS 5-12, 18-25, 30, AND 31

The *issue* before us is whether the Examiner erred in finding that van Hoff teaches at least one page comprising a plurality of record slots, wherein each record slot includes a pointer pointing to a record stored on the page as required by claims 5, 18, and 30.

ANALYSIS

"Claims in dependent form shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim." 37 C.F.R. § 1.75.

Here, claims 5, 18, and 30 depend indirectly from independent claims 1, 14, and 27. The independent claims require a node slot array of pointers as aforementioned regarding claim 1. Construing claims 5, 18, and 30 to include this limitation of the independent claims, the dependent claims require a plurality of record slots, wherein each record slot includes a pointer pointing to a record stored on the page and the array of record slot pointers is different than the aforementioned node slot array of pointers.

The Examiner admits that "Kanne does not explicitly teach that each page comprises a plurality of record slots, wherein each record slot includes a pointer pointing to a record stored on the page." (Ans. 4-5.) He finds that

van Hoff, however, "teaches that an array of 'nodes slots' (e.g. the index/ pointer list) can point to another array of 'nodes' (#202) of the structured document." (Ans. 10.) The Appellants make the following argument.

> Since the Examiner has already construed the "document content array 202" of Hoff as disclosing the "node slot array" and the "content elements 204" of Hoff as disclosing the "node slots" recited in claim 1, the Examiner cannot now construe the "document content array 202" of Hoff as disclosing the "page" and the "content elements 204" of Hoff as disclosing the "records" recited in claim 5.

(Reply Br. 8.)

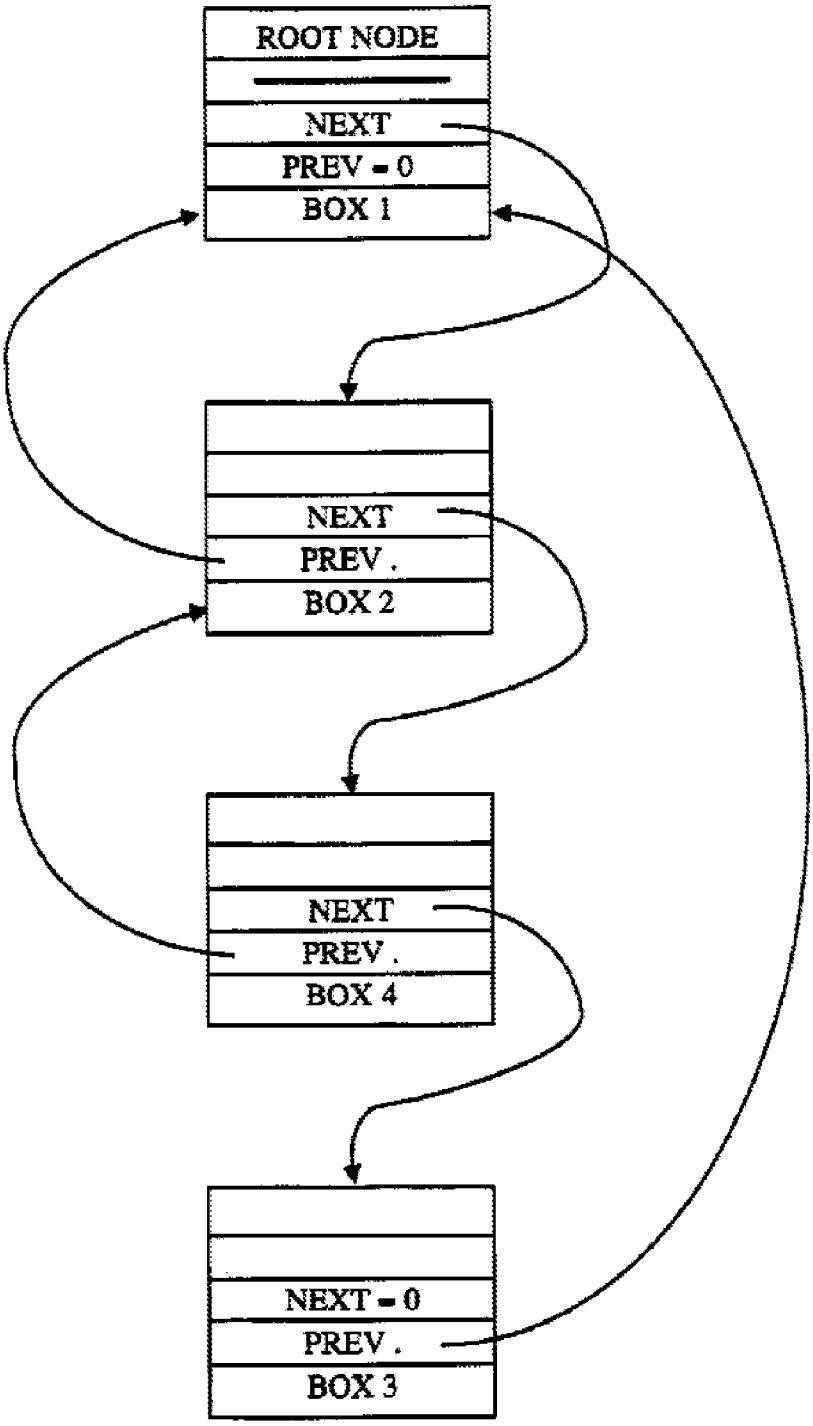
Although the Appellants incorrectly identify the array of van Hoff that the Examiner relies on to teach the claimed node slot array of pointers as aforementioned, we agree with their underlying logic. The Examiner already relied on van Hoff's pointer array 206 to teach the independent claims' node slot array of pointers. He cannot rely on the same pointer array to teach the dependent claims' array of record slot pointers. Therefore, we *conclude* that the Examiner erred in finding that van Hoff teaches at least one page comprising a plurality of record slots, wherein each record slot includes a pointer pointing to a record stored on the page as required by claims 5, 18, and 30.

CLAIMS 33 AND 38

The *issue* before us is whether the Examiner erred in finding that the combined teachings of Kanne, van Hoff, and Nichani would have suggested a child pointer pointing to a node slot pointing to the child node if the child node is a separate node as required by representative claim 33.

FINDINGS OF FACT

Figure 7 of Nichani follows.



The Figure shows "a doubly linked list." (Col. 10, l. 9.)

ANALYSIS

"The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art." *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). "Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references." *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (citing *Keller*, 642 F.2d at 425). In determining obviousness, furthermore, a reference "must be read, not in isolation, but for what it fairly teaches in combination with the prior art as a whole." *Id.*

Here, the Examiner rejects the representative claim based on what the combined teachings of Kanne, van Hoff, and Nichani would have suggested to one of ordinary skill in the art. More specifically, the Examiner's finding that "Kanne teaches a tree network with nodes having numerous children" (Ans. 11) is uncontested. "Silence implies assent." *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 572 (1985).

As explained regarding the first group of claims, we concluded that the Examiner did not err in finding that van Hoff teaches a node slot array of pointers.

He further finds that "Nichani et al discloses a 'doubly linked list' (see col. 10, lines 5-11). A doubly linked list teaches how a child (next node in a linked list) can point back to its parent node (the previous node in a linked list)." (Ans. 11.) These findings are uncontested.

For their part, the Appellants merely argue that "none of the pointers in FIG. 7 of Nichani points to a "node slot" of a 'node slot array' that is

separate from the 'nodes in the hierarchical node tree'" (Reply Br. 10.) Because the rejection is based upon the combined teachings of Kanne, van Hoff, and Nichani, however, such an argument about the former reference individually cannot establish non-obviousness. Therefore, we *conclude* that the Examiner did not err in finding that the combined teachings of Kanne, van Hoff, and Nichani would have suggested a child pointer pointing to a node slot pointing to the child node if the child node is a separate node as required by representative claim 33.

DECISION

We affirm the rejections of claims 1 and 33 and those of claims 2, 4, 13-15, 17, 26-29, 32, and 34-38, which fall therewith. In contrast, we reverse the rejection of claims 5, 18, and 30 and those of claims 6-12, 19-25, and 31, which depend therefrom.

No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED-IN-PART

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